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United States Department of Agriculture,

FEDERAL HORTICULTURAL BOARD.

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SERVICE AND REGULATORY ANNOUNCEMENTS.

NOVEMBER–DECEMBER, 1919.

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GENERAL NOTES.

THE PINK BOLLWORM SITUATION.

REINFESTATION AND CLEAN-UP WORK.

The discovery on October 22, 1919, of the first reinfestation by the pink bollworm in the old quarantined and restricted areas in eastern Texas was noted in the last number of these Service and Regulatory Announcements. Field surveys, which resulted in this discovery, have been continued with great thoroughness over all the areas in eastern and western Texas which have been invaded hitherto by the pink bollworm and this work can now (January, 1920) be considered to have developed probably the full extent of reinfestation. The reinfestations found have been confined to the Trinity Bay district and to the Pecos Valley district.

In the Trinity Bay district 43 infested fields have been found as against 157 fields in 1917. The infestation is nearly as widespread as it was before, but is much less in amount. In practically all cases this year only single plants or small groups of plants were found infested in any given field. Repeatedly

where practically every boll in a field has been examined, the infestation has been found only in a small group of adjoining plants. All of the cotton grown within a radius of 5 miles of infestation has been condemned and is being destroyed. The claims arising against the State on this account amount to about $40,000, claims which under the terms of the pink bollworm act it is believed will have to be paid by the State. The clean-up work is proceeding rapidly considering its magnitude, the work being done by larger or smaller camps or squads of laborers. Altogether some 700 laborers were at work about the first of the year. This work will probably be practically completed by the end of January.

In the Pecos Valley intensive field inspections resulted in the finding of but a single infested boll containing a single larva of the pink bollworm. This larva was found in a field which had been repeatedly searched, and after the discovery, the field was given again an intensive search, which amounted to an examination of every boll, without the discovery of another insect. Clean-up operations are being conducted in the Pecos Valley. A total of 1,700 acres are to be cleaned in this valley and some 500 laborers are engaged in this work.

These reinfestations are perhaps not more than could have been anticipated. The explanation of their occurrence in eastern Texas is possibly due to the fact of the holding over of certain larvæ which have perhaps been buried deeply in the soil for one year. The fact of such larval longevity has been established by experiment and is perhaps one of the methods by which the insect insures its perpetuation. Furthermore, it must be recognized that it is a practical impossibility to get every insect in one season's campaign, and the need, therefore, of a longer noncotton period than one year is clearly indicated. The outlook is favorable for a more effective clean-up this season than was possible in the winter of 1917–18. The infestation was discovered much earlier, giving a longer working season and the amount of cotton produced on the plants in 1919 was much smaller than in 1917 and the infestation also very much less. The greater amount of grass in the fields due to the unusual amount of rainfall in 1919 will also make it possible to burn over many of these fields much more effectively than was the case in the previous clean-up. The results of 1917 and present conditions as a whole indicate that the methods being employed are practicable and will probably be successful if maintained, and an adequate noncotton zone period is authorized by the State and cooperated in fully by the planters concerned.

The growth of cotton in the Big Bend area of the Rio Grande was prohibited on account of the infestation in 1918 and the known infestation on the Mexican side of the river, and the area was established as a noncotton zone. The one field in this area planted in violation of this order has now been taken hold of by State authorities and all of the cotton, both picked and unpicked, has been burned. This field proved to be infested with the pink bollworm.

LAGUNA STATION CLOSED.

The Laguna research station in Mexico has been closed and Messrs. Loftin, McKinney, and Hanson have returned to the United States. A report will soon be issued giving the results of the two years' study of the pink bollworm. The damage to the cotton in this district in Mexico seems to have averaged about 20 per cent of the crop. Of special interest at this time is the fact that fumigation tests have shown that seed can be satisfactorily fumigated with carbon bisulphide but that hydrocyanic-acid gas at the ordinary atmospheric pressure has not sufficient penetrating powers to be effective to a greater depth than a few inches. The attempt to control the insect in the field with arsenical poisons has yielded only negative results.

The larvæ of the pink bollworm have been found to be very resistent to water and have survived 48 hours' immersion, whereas larvæ in dry bolls have survived a period of 7 or 8 days. This probably gives an explanation of one of the means of spread of larvæ, especially in a district like that of the Great Bend of the Rio Grande, by water carriage in bolls or parts of the cotton plant which may be caught up by flood waters.

STUDY OF OTHER HOST PLANTS THAN COTTON.

A very careful survey has been conducted of the malvaceous plants along the Rio Grande and elsewhere in Texas to determine the possibility of their serving as hosts for the pink bollworm. This included not only wild plants, but also such cultivated plants as species of hibiscus and hollyhock, and garden plantings of okra. In no case has the pink bollworm been found to infest any of these plants. In Texas, therefore, it so far has confined itself strictly to cotton which is of very great importance in connection with the efforts to exterminate the insect by control of cotton. That the insect will feed at least on okra has, however, been shown by the experience in Egypt and this has also proved to be the case in Mexico, and by forcing, or in the absence of its natural host, it can be made to subsist on many of the other related plants.

BORDER QUARANTINE SERVICE.

The Texas border inspection quarantine service, which has been recently under the general direction of Mr. R. Kent Beattie, has been transferred to the direction of Mr. E. R. Sasscer, and to this department has been added the general administration of all the port inspection service being conducted under the Federal plant quarantine act, namely, the inspection offices and forces at New York, Boston, San Francisco, Seattle, and New Orleans. The car fumigation houses have been in operation for three months and with minor adjustments have been thoroughly satisfactory. The efficiency of the work has probably been fully doubled by the change, especially inasmuch as the cars are now fumigated as entireties inside and out. Based on chemicals and cost of labor, an initial charge was fixed at $5 a car. After these three months' service, it has been found possible to reduce this charge to $4 a car. This reduction is in part effected by a lowering in cost of the chemicals involved.

The danger of reinfestation by the carriage of seed by Mexican laborers has already been noted. The extent of this danger may be indicated by the fact that some 15,000 laborers annually migrate from Mexico to Texas and Arizona for cotton picking. The inspection which is being made at the border of the baggage and equipment of these laborers has already resulted in the finding of a lot of cotton seed in their belongings or made up into quilts and mattresses and in some of this seed living pink bollworm larvæ have been found. The possible entry of such seed with the belongings of laborers is being safeguarded by inspection and disinfection and even where necessary by the burning of quilts or other similar articles stuffed with cotton containing seed.

CONFERENCE ON PINK BOLLWORM.

The Association of Cotton State Entomologists held a meeting in Houston, Tex., on December 3, 1919, to discuss the present status of the pink bollworm. Representatives of the following States were present: Alabama, Arizona, Arkansas, Florida, Louisiana, Mississippi, and Texas. Representatives of the board were also present. The situation in Texas was fully discussed and field trips were made to note the conditions and character of the clean-up work being done.

INVESTIGATIONS IN PORTO RICO.

Mr. Loftin has been commissioned to make a study of the cotton insects in Porto Rico and left for this work about the 1st of January. This investigation was necessitated by the demands made by importers for the entry of a considerable quantity of cottonseed from Porto Rico. Our lack of accurate knowledge of the infesting insects and pests of cotton in Porto Rico made it desirable to have a thorough investigation of the subject carried out before such entry of cottonseed is authorized.

THE EUROPEAN CORN BORER.

The quarantine action taken by various States and Canada with respect to the European corn borer is indicated in the following statement which gives the effective date of the quarantines, the plants covered and the States or areas:

Massachusetts.—May 1, 1919 (amended seven times to add additional infested towns); corn on the cob, corn cobs and all portions of the stalk; certain towns in eastern Massachusetts.

New York.—March 1, 1919: Corn fodder or corn stalks whether used for packing or otherwise, or any green sweet corn or roasting ears, corn on the cob or corn cobs; or any herbaceous plants, such as cultivated garden or flowering plants, as celery, chard, green or string beans in the pod, beet tops, spinach, turnip tops; dahlia, gladiolus, and chrysanthemum, prohibited to move to any points outside of the quarantined area; Albany, Montgomery, Saratoga, and Schenectady Counties.

March 20, 1919 (Order): All corn stubble or corn stalks of last year's growth remaining in fields within the infested districts or area, required to be removed and burned before May 15, 1919; Albany, Montgomery, Saratoga, and Schenectady Counties.

New York.—September 5, 1919; corn fodder or corn stalks or any corn on the ear whether green or ripe or any corn plant or part thereof (excepting only dry shell corn); certain school districts in the counties of Albany, Montgomery, Saratoga, and Schenectady, N. Y.

Wisconsin.—January 1, 1920, stalks, ears, and seed of field corn, sweet corn and broom corn; Massachusetts, New Hampshire, New York, and Pennsylvania.

Illinois.—October 1, 1919; corn and broom corn; New York and Massachusetts.

Illinois.—January 20, 1920 (amendment); corn, broom corn, celery, dahlias, chrysanthemums, gladioli and geraniums, except seed corn in packages not to exceed 1 pound and seed corn in bulk, provided it is shelled and double screened. Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, and New York.

Florida.—December 8, 1919; all broom corn, corn, corn fodder, stover, cornstalks and corn cobs; except shelled dry kernels of corn free from pieces of cobs and stems, corn meal, grits, and flakes, and the cooked or preserved products of corn. All hay, straw, grass, and the dried stems, leaves, or stalks of grasses and of all succulent plants commonly known as weeds (regardless of whether used as feed, bedding, or packing materials). All manure and litter of all kinds, except guano and commercial fertilizers. All aster, chrysanthemum, gladiolus, goldenrod, dahlia, and sunflower plants and all parts thereof (including "cut flowers" of these species and varieties), except seed and unsprouted bulbs free from soil. All succulent plants, including asparagus, bean, beet, carrot, cabbage, celery, grape, lettuce, pepper, potato, rhubarb, Swiss chard, spinach, tansy, tomato and cucumber plants and all parts thereof; except potato tubers, seeds as such, and canned, cooked, or preserved vegetables or fruit products; Counties of Barnstable, Essex, Middlesex, Norfolk, Plymouth, and Suffolk, Mass.; County of Rockingham, N. H.; Counties of Albany, Cattaraugus, Chautauqua, Erie, Fulton, Montgomery, Rensselaer, Saratoga and Schenectady, N. Y.; Erie, Pa.

New Hampshire.—September 6, 1919; corn fodder, corn stalks for any purpose whatsoever, or any green sweet corn or roasting ears, corn on cob or corn cobs, beets, carrots, or other root crops sold in bunches with the tops on; Swiss chard, spinach and other leafy plants used for greens; celery is exempt under this quarantine if the plants are stripped and washed prior to shipment and sale. The towns of Seabrook, Plaistow, and Kingston, N. H.

Canada.—May 19, 1919: Corn fodder or corn stalks, whether used for packing or otherwise, green sweet corn, roasting ears, corn on the cob or corn cobs; Essex, Middlesex, Norfolk, and Suffolk Counties, Massachusetts; Schenectady, Saratogo, Montgomery, and Albany Counties, New York. This prohibition shall not extend to shipments of corn transported through the quarantined areas on a through bill of lading.

The survey work to determine the possible distribution of the European corn borer has been terminated by the unfavorable conditions of winter. No new points of infestation have been found. It is, therefore, possible to again consider the subject of a Federal quarantine with respect to this insect, and a notice of hearing in respect to such quarantine may be shortly issued. In the meantime, the State quarantines established by Massachusetts, New York, and New Hampshire, if properly enforced, should prevent wide carriage of infested farm products. As long as new towns and counties were being added almost daily to the area known to be infested both in New York and Massachusetts, the establishment of any Federal quarantine was impracticable and especially in view of the likelihood that the insect would at any time be discovered much farther west. The establishment of a Federal quarantine at this time is perhaps justifiable, particularly as an aid in securing the full enforcement of the State quarantines, but must be looked upon as purely tentative in view of the continued uncertainty as to the actual distribution of this insect.

A request was transmitted to Congress December 12, 1919, for an additional appropriation of $500,000 to be made immediately available. This appropriation was for the purpose of continuing and carrying to completion the plan of work which had been formulated by the Bureau of Entomology in cooperation with the Federal Horticultural Board. This plan includes:

1. The determination of the distribution of the insect.
2. The carrying out of control measures over areas sufficient to demonstrate the possibilities of practical repression, these areas to include the outlying points of infestation and also an area of the most badly infested territory.
3. Cooperation with the States concerned in the enforcement of State and Federal quarantines to prevent the movement of infested material out of the known invaded areas.

In addition to these lines of work, the research studies with respect to the control of the insect by parasites, and its economic importance to different varieties of corn and under different regional conditions, will be continued. It is believed that an appropriation of $500,000, together with the balance of the $250,000 in the current agricultural appropriation bill, will be sufficient to carry out these purposes during the season of 1920.

The completion of this work as above outlined should fairly well determine the importance of this pest as an enemy of corn and other crops, its present distribution, and the possibility of quarantine and other methods of control. In the circumstances it would seem that larger appropriations if they are to be made should await the determination of these underlying features of the problem.

If it later seems desirable and necessary to have additional funds the situation will be laid before Congress with a view to secure the necessary appropriation.

IMPORTATION OF IRISH POTATOES FROM HOLLAND AND BELGIUM NOT PERMITTED.

The importation of potatoes from Europe has been limited to countries which are known or believed to be free from the potato wart. The only European countries which have hitherto qualified for export of potatoes to the United States under this requirement are Holland, Belgium, and Denmark.

Recent developments have made it necessary for the present to refuse permits for importations of potatoes into the United States from Holland and Belgium. In the case of Holland, the potato-wart disease has been determined as existing in the Province of Groningen, and under the policy hitherto followed by the department of prohibiting importations from any country which is known to be invaded by the wart disease, under which policy the potatoes of England, Ireland, and Germany are refused admission to the United States, it becomes necessary to refuse further admission of potatoes from Holland. In the case of Belgium, it is recognized that during the period of German occupation German potatoes were freely taken into Belgium, and it is probable that the potato wart now occurs in Belgium. It therefore is necessary, to safeguard the United States, to exclude Belgian potatoes until the Belgian Government shall have had time and opportunity to conduct such field inspections as shall determine definitely whether the country is or is not free from this potato disease. Therefore, until further notice no permits will be issued for the importation of potatoes either from Holland or Belgium.

ENTRY OF DATE OFFSHOOTS RESTRICTED.

The Federal Horticultural Board has hitherto ruled with respect to date offshoots that such offshoots properly must be considered as finished plants in distinction from fruit stock or cuttings. With respect to Quarantine No. 37 this ruling has been reaffirmed as to date offshoots. The general or commercial importation, therefore, of such offshoots is not permitted under Quarantine No. 37, and entry is restricted to such limited quantities as may be authorized under special permit under Regulation 14.

BOARD PERSONNEL AND CHANGES.

The assignment of Mr. E. R. Sasscer to the general charge of the port inspection service, including the Mexican border service, has been noted in the discussion of the border quarantine and inspection work on account of the pink bollworm. Mr. R. Kent Beattie, formerly in charge of the Texas-Mexican border service, has been placed in charge of the branch of the board's work dealing with restrictions on the entry from foreign countries of all plants and plant products. This involves the administration of the quarantines affecting the entry of cotton, corn, potatoes, and various fruits, sugar cane, and nursery stock and other plants and seeds.

The personnel of the Federal Horticultural Board is growing rapidly and the changes and additions have only been in part recorded in these announcements.

The employees and collaborators of the board are now as follows:

Administrative office	29
Plant quarantine inspectors (entomologists), Washington	7
Plant quarantine inspectors (pathologists), Washington	6
Field force in Texas	68
Texas border service	19
Port inspection service	15
Collaborators	71

REPORT OF CONFERENCE ON POTATO WART.

Reports given at a recent conference of officials from West Virginia, Pennsylvania, and Maryland with the Federal Horticultural Board of the United States Department of Agriculture, called to consider the status of the potato wart disease, indicate that there has been only a slight spread of this recently discovered menace to the potato industry of America, and that by planting immune varieties further losses from the disease can be practically eliminated.

The potato wart is one of the most destructive maladies attacking potato crops in Europe, and heretofore no means has been found, for eradicating it from the soil once a garden or field becomes infected. Not only have the investigators for the United States Department of Agriculture found varieties of potatoes which are immune, but they have devised a method of thoroughly disinfecting the soil by the use either of steam or formaldehyde.

As a result of the conference in Washington, it is announced that the State authorities of West Virginia and Pennsylvania will take steps to assist gardeners in the infected regions in the purchase of varieties of seed known to be immune. It may be found advisable, also, to undertake the disinfection of a limited number of garden plots. As the cost of this work is approximately $1,000 an acre, the efforts along this line will be limited until the most effective and economical methods have been discovered.

(The above press notice was issued by the Office of Information, U. S. Department of Agriculture, Nov. 29, 1919.)

UNSTERILIZED EARTH NOT PERMITTED ENTRY UNDER QUARANTINE NO. 37.

NOVEMBER 15, 1919.

DEAR SIR: It develops that there has been some confusion in the minds of applicants for special permits under Regulation No. 14 in regard to the restrictions as to freedom from earth of plants for which permits have been issued under this regulation. In view of the fact that freedom from earth was made an essential requirement for the importation of all the classes of plants which are permitted entry under Regulation No. 3, Quarantine No. 37, and the further fact that the necessity of freedom from earth has always been emphasized in the explanations and statements relative to this quarantine, both at the hearings and those subsequently issued to the horticultural public, it has been taken for granted by the board that the trade understood that these restrictions applied with equal force to the special permits issued under Regulation No. 14. To clear up any misapprehension that may exist on this point, the board has issued a circular letter (HB–115), a copy of which is inclosed, which points out that this requirement as to freedom from earth applies to all importations permitted under Quarantine No. 37. You are therefore notified that permit No. —, dated ———, does not authorize you to import plants with earth, other than in the case of bulbs, where such earth is sterilized in accordance with amendment No. 1, Quarantine No. 37.

Very truly, yours,

C. L. MARLATT,
Chairman of Board.

ENTRY UNDER REGULATION 14 AND FOR IMMEDIATE TRANSPORTATION AND EXPORTATION IN BOND OF PLANTS WITH EARTH PROHIBITED.

H. B.–115. NOVEMBER 15, 1919.

The provision for the entry of certain nursery stock and other plants and seeds under Regulation No. 3, Quarantine No. 37, specifies that such plants and seeds shall be free from sand, soil, or earth. An amendment to this regulation (Amendment No. 1 to Quarantine No. 37), provides that the requirement as to freedom from sand, soil, or earth, shall not apply to the sand, soil, or earth used for packing of the articles enumerated in Item No. 1 of Regulation No. 3 when such sand, soil or earth has been previously sterilized in accordance with methods prescribed by the Federal Horticultural Board and under the supervision of an authorized inspector of the country of origin, such sterilization to be certified to by the duly authorized inspector of such country of origin.

This requirement under Regulation No. 3, with respect to sand, soil, or earth, applies also to plants imported under special permits issued under Regulation No. 14 of Quarantine No. 37, and to plants offered for entry for immediate transportation and exportation in bond to foreign countries. With respect to the latter, however, provision may be made for the immediate export of plants with earth to the country of destination by available ocean route.

All importers are therefore warned to instruct their foreign correspondents with respect to this provision both as to special permits under Regulation No. 14 and as to shipments of plants offered for entry for immediate transportation and exportation in bond to foreign countries.

C. L. MARLATT,
Chairman of Board.

SEEDLINGS OR LINING OUT STOCK OF ORNAMENTALS NOT PERMITTED ENTRY UNDER QUARANTINE NO. 37.

NOVEMBER 21, 1919.

The admission of fruit stocks and certain rose stocks under Regulation No. 3 of Quarantine 37 has led to inquiries as to the possibilities of admission of similar stocks of ornamentals. These inquiries have reference chiefly to seedlings, i. e., lining out stock to be imported and either grown to salable sizes and then sold, or to be used as stocks for budding or grafting, the plants thus produced to be sold. Such importations are entirely distinct from plants imported to furnish buds, scions, or other needs of plant propagation and not for the sale of the plants actually imported, provision for the entry of which when not available in the United States has already been made in Regulation 14.

Importers are advised that the importation of ornamental seedlings for the purposes indicated is not permitted under Quarantine 37. It is expected that such ornamentals will be ultimately produced in this country to meet essential needs and provision is made in the quarantine for the entry of seeds of such plants both for direct production and to supply necessary stocks for grafting, etc. This may mean in some instances a delay of a few years before adequate supplies will be made available but in the meantime the essential needs of this country can be met by the substitution of other and American-grown plants. It should be noted that finished fruit trees, namely, grafted or budded plants, and finished rose plants are placed in the same class with ornamentals and are not permitted entry.

One exception may be made to this ruling, namely, if it should become apparent that any ornamental for which there may be a substantial horticultural need can not be successfully grown in this country from seed, the board is willing to give special consideration to such cases and if such condition is demonstrated to the satisfaction of the board and confirmed after experimentation or otherwise by the experts of this department, entry under Regulation 14 of a reasonable quantity of such seedling plants may be authorized.

The provisions for the importation of new varieties and propagating stock not available in this country for reproduction purposes are detailed in a circular letter of this board (HB–105) and in the form of application for special permit under Regulation 14 (HB–107). These documents will be supplied on request.

C. L. MARLATT,
Chairman of Board.

LIST OF CURRENT QUARANTINE AND OTHER RESTRICTIVE ORDERS.

QUARANTINE ORDERS.

The numbers assigned to these quarantines indicate merely the chronological order of issuance of both domestic and foreign quarantines in one numerical series. The quarantine numbers missing in this list are quarantines which have either been superseded or revoked. For convenience of reference these quarantines are here classified as domestic and foreign.

DOMESTIC QUARANTINES.

Date palms.—Quarantine No. 6: Regulates the interstate movement of date palms or date-palm offshoots from Riverside County, Calif., east of the San Bernardino meridian; Imperial County, Calif.; Yuma, Maricopa, and Pinal Counties, Ariz.; and Webb County, Tex.; on account of the Parlatoria scale (*Parlatoria blanchardi*) and the Phoenicococcus scale (*Phoenicococcus marlatti*).

Cotton seed and cottonseed hulls.—Quarantine No. 9: Prohibits the importation of cotton seed and cottonseed hulls from the Territory of Hawaii on account of the pink bollworm.

Hawaiian fruits.—Quarantine No. 13, revised: Prohibits or regulates the importation from Hawaii of all fruits and vegetables, in the natural or raw state, on account of the Mediterranean fruit fly and the melon fly.

Sugar cane.—Quarantine No. 16: Prohibits the importation from Hawaii and Porto Rico of living canes of sugar cane, or cuttings or parts thereof, on account of certain injurious insects and fungous diseases.

Cotton.—Quarantine No. 23, revised: Regulates the movement of cotton from Hawaii to the continental United States, on account of the pink bollworm.

Five-leafed pines, Ribes and Grossularia.—Quarantine No. 26, as amended: Prohibits the interstate movement of five-leafed pines, currant and gooseberry plants from all States east of and including the States of Minnesota, Iowa, Missouri, Arkansas, and Louisiana to points outside of this area; prohibits, further, (1) the interstate movement of five-leafed pines and black-currant plants to points outside the area comprising the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, and New York, and (2) to protect the State of New York, the movement from the New England States, on account of the white-pine blister rust.

Sweet potato and yam.—Quarantine No. 30: Prohibits the movement from the Territories of Hawaii and Porto Rico into or through any other Territory, State, or District of the United States of all varieties of sweet potatoes and yams (*Ipomoea batatas* and *Dioscorea* spp.), regardless of the use for which the same are intended, on account of the sweet-potato weevil (*Cylas formicarius*) and the sweet-potato scarabee (*Euscepes batatæ*).

Banana plants.—Quarantine No. 32: Prohibits the movement from the Territories of Hawaii and Porto Rico into or through any other Territory, State, or District of the United States of any species or variety of banana plants (*Musa* spp.), regardless of the use for which the same are intended, on account of two injurious weevils, *Rhabdocnemis obscurus* and *Metamasius hemipterus*.

Gipsy moth and brown-tail moth.—Quarantine No. 33, revised: Regulates the movement interstate to any point outside of the quarantined towns and territory, or from points in the generally infested area to points in the lightly infested area, of stone or quarry products, and of the plants and the plant products listed therein. The quarantine covers portions of the States of Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut.

Japanese beetle.—Quarantine No. 35: Regulates the movement interstate to any point outside the townships of Delran, Chester, and Cinnaminson, Burlington County, N. J., of green corn, commonly called sweet or sugar corn, on account of the Japanese beetle (*Popillia japonica*).

European corn borer.—Quarantine No. 36: Prohibits the movement interstate to any point outside of the quarantined area of corn fodder or cornstalks whether used for packing or otherwise, green sweet corn, roasting ears, corn on the cob, and corn cobs, on account of the European corn borer (*Pyrausta nubilalis*).

Black stem rust.—Quarantine No. 38: Prohibits the movement interstate to any point outside of the quarantined area of the common barberry and its horticultural varieties, as well as certain other species of Berberis and Mahonia, on account of the black stem rust of wheat, oats, barley, rye, and many wild and cultivated grasses.

FOREIGN QUARANTINES.

Irish potatoes.—Quarantine No. 3: Prohibits the importation of the common or Irish potato from Newfoundland; the islands of St. Pierre and Miquelon; Great Britain, including England, Scotland, Wales, and Ireland; Germany; and Austria-Hungary, on account of the disease known as potato wart.

Mexican fruits.—Quarantine No. 5, as amended: Prohibits the importation of oranges, sweet limes, grapefruit, mangoes, achras sapotes, peaches, guavas, and plums from the Republic of Mexico, on account of the Mexican fruit fly.

Five-leafed pines, Ribes, and Grossularia.—Quarantine No. 7, as amended: Prohibits the importation from each and every country of Europe and Asia, and from the Dominion of Canada and Newfoundland, of all five-leafed pines and all species and varieties of the genera *Ribes* and *Grossularia*, on account of the white-pine blister rust.

Cotton seed and cottonseed hulls.—Quarantine No. 8, as amended: Prohibits the importation from any foreign locality and country, excepting only the locality of the Imperial Valley, in the State of Lower California, Mexico, of cotton seed (including seed cotton) of all species and varieties, and cottonseed hulls, on account of the pink bollworm. Cotton and cotton seed from the Imperial Valley may be entered under permit and regulation.

Seeds of avocado or alligator pear.—Quarantine No. 12: Prohibits the importation from Mexico and the countries of Central America of the seeds of the avocado or alligator pear, on account of the avocado weevil.

Sugar cane.—Quarantine No. 15: Prohibits the importation from all foreign countries of living canes of sugar cane, or cuttings or parts thereof, on account of certain injurious insects and fungous diseases. There are no restrictions on the entry of such materials into Hawaii and Porto Rico.

Citrus nursery stock.—Quarantine No. 19: Prohibits the importation from all foreign localities and countries of all citrus nursery stock, including buds, scions, and seeds, on account of the citrus canker and other dangerous citrus diseases. The term "citrus," as used in this quarantine, includes all plants belonging to the subfamily or tribe *Citratae*.

European pines.—Quarantine No. 20: Prohibits, on account of the European pineshoot moth (*Evetria buoliana*), the importation from all European countries and localities of all pines not already excluded by Quarantine No. 7.

Indian corn or maize and related plants.—Quarantine No. 24, as amended: Prohibits the importation from southeastern Asia (including India, Siam, Indo-China, and China), Malayan Archipelago, Australia, New Zealand, Oceania, Philippine Islands, Formosa, Japan, and adjacent islands, in the raw or unmanufactured state, of seed and all other portions of Indian corn or maize (*Zea mays* L.), and the closely related plants, including all species of Teosinte (*Euchlaena*), Job's tears (*Coix*), *Polytoca*, *Chionachne*, and *Sclerachne*, on account of the downy mildews and *Physoderma* diseases of Indian corn, except that Indian corn or maize may be imported under permit and upon compliance with the conditions prescribed in the regulations of the Secretary of Agriculture.

Citrus fruit.—Quarantine No. 28: Prohibits the importation from eastern and southeastern Asia (including India, Siam, Indo-China, and China), the Malayan Archipelago, the Philippine Islands, Oceania (except Australia, Tasmania, and New Zealand), Japan (including Formosa and other islands adjacent to Japan), and the Union of South Africa, of all species and varieties of citrus fruits, on account of citrus canker, except that oranges of the mandarin class (including satsuma and tangerine varieties) may be imported under permit and upon compliance with the conditions prescribed in the regulations of the Secretary of Agriculture.

Sweet potato and yam.—Quarantine No. 29: Prohibits the importation for any purpose of any variety of sweet potatoes or yams (*Ipomoea batatas* and *Dioscorea* spp.) from all foreign countries and localities, on account of the sweet potato weevils (*Cylas* spp.) and the sweet potato scarabee (*Euscepes batatae*).

Banana plants.—Quarantine No. 31: Prohibits the importation for any purpose of any species or variety of banana plants (*Musa* spp.), or portions thereof, from all foreign countries and localities, on account of the banana root borer (*Cosmopolites sordidus*).

Bamboo.—Quarantine No. 34: Prohibits the importation for any purpose of any variety of bamboo seed, plants, or cuttings thereof capable of propagation, including all genera and species of the tribe *Bambuseae*, from all foreign countries and localities, on account of dangerous plant diseases, including the bamboo smut (*Ustilago shiraiana*). This quarantine order does not apply to bamboo timber consisting of the mature dried culms or canes which are imported for fishing rods, furniture making, or other purposes, or to any kind of article manufactured from bamboo, or to bamboo shoots cooked or otherwise preserved.

Nursery stock, plants, and seeds.—Quarantine No. 37, as amended, with regulations (effective on and after June 1, 1919): Prohibits the importation of nursery stock and other plants and seeds from all foreign countries and localities, on account of certain injurious insects and fungous diseases, except as provided in the regulations. Under this quarantine the following plants and plant products may be imported without restriction: Fruits, vegetables, cereals, and other plant products imported for medicinal, food, or manufacturing purposes, and field, vegetable, and flower seeds. The entry of the following plants is permitted under permit: Lily bulbs, lily of the valley, narcissus, hyacinths, tulips, and crocus; stocks, cuttings, scions, and buds of fruits; rose stocks, including manetti, multiflora, brier rose, and rosa rugosa; nuts, including palm seeds; seeds of fruit, forest, ornamental, and shade trees; seeds of deciduous and evergreen ornamental shrubs, and seeds of hardy perennial plants.

Provision is also made for the issuance of special permits under safeguards to be prescribed in such permits for the entry in limited quantities of nursery stock and other plants and seeds not covered in the preceding lists for the purpose of keeping the country supplied with new varieties and necessary propagating stock.

Flag smut and take-all.—Quarantine No. 39, with regulations (effective on and after August 15, 1919): Prohibits the importation of seed or paddy rice from Australia, India, Japan, Italy, France, Germany, Belgium, Great Britain, Ireland, and Brazil on account of two dangerous plant diseases known as flag smut (*Urocystis tritici*) and take-all (*Ophiobolus graminis*). Wheat, oats, barley, and rye may be imported from the countries named only under permit and upon compliance with the conditions prescribed in the regulations of the Secretary of Agriculture.

OTHER RESTRICTIVE ORDERS.

The regulation of the entry of nursery stock from foreign countries into the United States was specifically provided for in the plant-quarantine act. The act further provides for the similar regulation of any other class of plants or plant products when the need therefor shall be determined. The entry of the plants and plant products listed below has been brought under such regulation:

Nursery stock.—The conditions governing the entry of nursery stock and other plants and seeds from all foreign countries and localities are indicated above under "Foreign Quarantines." (See Quarantine No. 37.)

Irish potatoes.—The importation of Irish potatoes is prohibited altogether from the countries enumerated in the potato quarantine. Potatoes may be admitted from other foreign countries under permit and in accordance with the provisions of the regulations issued under the order of December 22, 1913, bringing the entry of potatoes under restriction on account of injurious potato diseases and insect pests. Importation of potatoes is now authorized from the following countries: Denmark, Cuba, Bermuda, and the Dominion of Canada. The regulations issued under this order have been amended so as to permit, free of any restrictions whatsoever under the plant-quarantine act, the importation of potatoes from any foreign country into the Territories of Porto Rico and Hawaii for local use only and from the Dominion of Canada and Bermuda into the United States or any of its Territories or Districts.

Avocado, or alligator pear.—The order of February 27, 1914, prohibits the importation from Mexico and the countries of Central America of the fruits of the avocado, or alligator pear, except under permit and in accordance with the other provisions of the regulations issued under said order, on account of the avocado weevil. Entry is permitted through the port of New York only and is limited to the large, thick-skinned variety of the avocado. The importation of the small, purple, thin-skinned variety of the fruit of the avocado and of avocado nursery stock under 18 months of age is prohibited.

Cotton.—The order of April 27, 1915, prohibits the importation of cotton from all foreign countries and localities, except under permit and in accordance with the other provisions of the regulations issued under said order, on account of injurious insects, including the pink bollworm. These regulations apply in part to cotton grown in and imported from the Imperial Valley, in the State of Lower California, in Mexico.

Corn.—The order of March 1, 1917 (Amendment No. 1, with Regulations, to Notice of Quarantine No. 24), prohibits the importation of Indian corn or maize in the raw or unmanufactured state from the countries and localities listed in Notice of Quarantine No. 24, except under permit and in accordance with the other provisions of the regulations issued under said order, on account of injurious diseases of Indian corn.

Cottonseed products.—The order of June 23, 1917, prohibits the importation of cottonseed cake, meal, and all other cottonseed products, except oil, from all foreign countries, and a second order of June 23, 1917, prohibits the importation of cottonseed oil from Mexico except under permit and in accordance with the other provisions of the regulations issued under said orders, on account of injurious insects, including the pink bollworm.

Citrus fruits.—The order of June 27, 1917 (Notice of Quarantine No. 28, with Regulations), prohibits the importation from the countries and localities listed therein of all species and varieties of citrus fruits, excepting only oranges of the mandarin class (including satsuma and tangerine varieties), on account of the citrus-canker disease. Oranges of the mandarin class (including satsuma and tangerine varieties) may be imported under permit and in accordance with the other provisions of the regulations issued under said order.

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